

CODETURN FOR NATURAL TO COBOL MIGRATIONS

FACT SHEET

AT A GLANCE

Many of today's mainframe applications that were developed in SAG Natural and Adabas are still mission-critical and continue to deliver significant benefits to the organizations that use them. Nevertheless, the Total Cost of Ownership (TCO), skill shortage, or end of support associated with these applications have now escalated to unacceptably high levels. Astadia's CodeTurn for Natural migrations liberates these valuable and reliable business systems from their dependency upon non-strategic, legacy technologies and brings them to a state-of-the-art technology stack. For this purpose, CodeTurn supports COBOL, Java, and C# as target languages. This fact sheet specifically provides more insight into the COBOL target.

PRODUCT HIGHLIGHTS

CodeTurn for Natural takes any application developed in Natural (programs, DDM's, copycodes etc.) and automatically converts it into a fully identical application, but designed to run within an alternative environment on the same platform, or a different platform altogether.

The new application is completely free of dependencies on Natural technology and, instead, uses modern and industry-standard development tools such as Java, .NET or COBOL, to allow flexible application integration and extension.

Migrate From Anywhere

The Astadia migration process utilizes Natural's SYSTRANS output format to migrate the Natural artifacts. This approach largely isolates the conversion from the underlying system, therefore every Natural platform is supported, i.e. IBM Mainframe (z/OS, MVS), Fujitsu BS2000 and Unix.

Migrate to Anywhere

A converted application can run on either Open Systems running Linux, Unix or Windows (LUW), in the Cloud, or on IBM Mainframe (typically for COBOL only). The chosen target platform is simply selected as a configuration option during the conversion process.

When the target platform is LUW, additional Astadia tools handle the transformation of other source types, such as JCL, Assembler and COBOL programs etc., thus ensuring that the entire application runs on the new platform.

Client Technology Compatibility

End-users can access the application with a web browser, or even from their current Terminal Emulator. This enables a 100% transparent switch-over for end-users.

Many Natural mainframe applications are enhanced or integrated through 3rd party screen-scraping technology. Astadia conversions provide byte-to-byte compatibility with the existing mainframe protocols; therefore screen-scrapers remain compatible, even on Open Systems.

NATURAL ARTIFACT MAPPINGS AND MAINTENANCE

The table below summarizes how all the Natural object types are converted into their COBOL counterparts.

Natural Object Type	Target Language
Programs, Sub-Programs, Subroutines	Programs
Copycodes	Copybooks
Data Areas – GDA	Copybooks & Programs
Data Areas – LDA/PDA	Copybooks
Predefined maps	Programs

After migration, all COBOL code is maintained using standard development tools on the chosen platform. Predefined maps can be maintained using our MapEdit WYSIWYG editor to further facilitate application integration and modernization.

Complete Natural Coverage

Natural is recognized as a rich and powerful development environment. The Astadia Natural migration tools provide support for advanced Natural language features, including:

- High-precision Natural computations (29 digits)
- Natural Reinput statements
- Natural Escape handling
- Multi-lingual user interfaces
- Adabas, VSAM and Db2 data sources

Adabas Migration

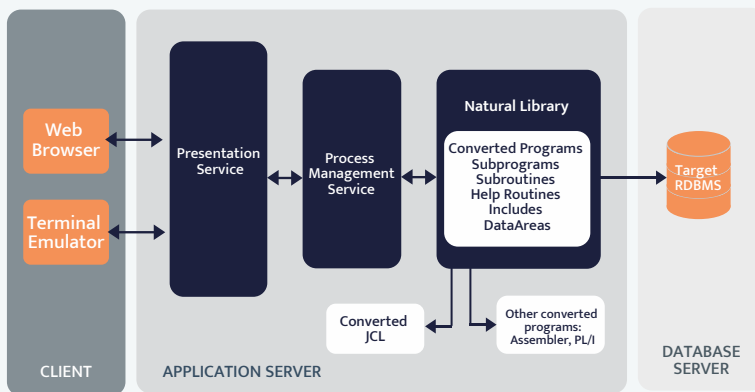
The Adabas database and all its data are migrated automatically to a relational database (RDBMS).

- The migration tools support all of the leading RDBMS products
- All DDL is created fully automatic
- The data model can be normalized or denormalized, or a hybrid
- The migration tools can map the Adabas Date and Time fields to native RDBMS Date and Time fields

MIGRATION ARCHITECTURE

Migration Architecture on LUW

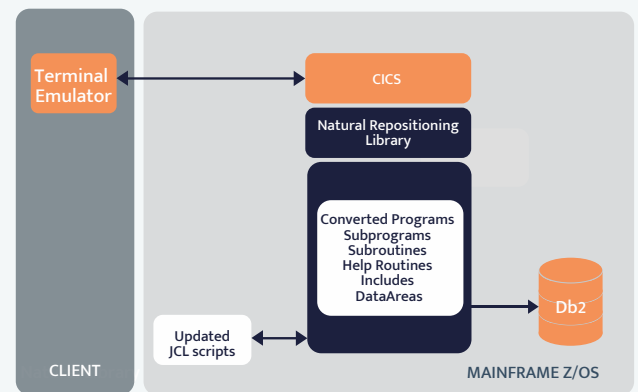
Architecture overview when migrating from Natural/Adabas to Linux, Unix, or Windows.



Natural to COBOL on LUW

Migration Architecture on IBM Mainframe

Migrating from Natural/Adabas to IBM Mainframe with COBOL/CICS/Db2.



Natural to COBOL/CICS/DB2 architecture

AUTOMATED TESTING

The converted application is tested with Astadia's TestMatch and DataMatch. Using these tools significantly reduces the time and effort needed to complete the project:

- TestMatch avoids the requirement to manually create test scenarios for the complete application

- TestMatch limits the application end-user involvement in the project to acceptance testing.
- DataMatch validates the content of databases, greatly reducing the effort needed to perform batch application testing.

Astadia is the market leading mainframe modernization consulting and systems integration boutique. A worldwide IT consulting firm, we specialize in moving IBM and Unisys mainframe applications and databases to distributed and cloud platforms.